

CLAIMS

(3) and to a mechanical coupling element (20), rigidly coupled to the casing (1), the metal bellows (19) defining at least in part said sealingly closed chamber (19,22,34,35).

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5. The probe according to claim 3 or claim 4, wherein the movable arm-set (3) defines an axial through hole (27) communicating with said sealingly closed chamber (19,22,34,35), the inert gas being inserted in the 10 sealingly closed chamber (19,22,34,35) through said axial through hole (27).

6. The probe according to claim 5, further including a closure screw (28) and a ring gasket (29), wherein the 15 axial through hole (27) includes at least a threaded area, the closure screw (28) being adapted to be coupled to said at least one threaded area and to lock the ring gasket (29) for achieving the sealing of the axial through hole (27).

20 7. The probe according to one of the claims 1 to 6, wherein the mechanical transmission device (61) of the electric switch (31) includes an elongate mechanical body (63) between the movable arm-set (3) and the movable contact (51), substantially longitudinal guide surfaces 25 (70-72) and an elastic thrust element (73) adapted for urging the elongate mechanical body (63) against said guide surfaces (70-72).

8. The probe according to claim 7, wherein the elastic 30 thrust device includes a bent flat spring (73) and the elongate mechanical body (63) includes a transmission element (67) with a substantially spherical shape adapted for cooperating with the substantially longitudinal guide surfaces (70-72) urged by the bent flat spring (73), the 35 transmission element (67) including a substantially plane portion (77) adapted for cooperating with said bent flat spring (73).

9. The probe according to one of the claims from 1 to 8, wherein the movable arm-set (3) is supported in the casing (1) by means of a cone-ball coupling (9,5), the movable arm-set and the casing defining annular surfaces (7,11) adapted to mutually contact and to cause, further to displacements of the arm (13), longitudinal displacements of the movable arm-set (3) suitable for being transmitted, by means of said mechanical transmission device (61), to the movable contact (51) of the electric switch (31).

10. The probe according to one of the claims from 1 to 8, wherein the movable arm-set (3) is supported in the casing (1) by a coupling between plane annular surfaces (7,11), the movable arm-set (3) and the casing (1) defining, respectively, a substantially spherical portion (9) and a substantially frusto-conical seat (5) adapted to mutually contact and to cause, further to displacements of the arm (13), the partial disengagement between the plane annular surfaces (7,11) and the consequent longitudinal displacements of the movable arm-set (3) suitable for being transmitted, by means of said mechanical transmission device (61), to the movable contact (51) of the electric switch (31).

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11. The probe according to one of the claims from 1 to 10, wherein the electric switch (31) includes a spring (53) for urging the movable contact (51) against said at least one stationary contact (44,45).

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12. The probe according to claim 11, wherein said electric switch (31) includes at least two stationary contacts (44,45), said spring (53) being adapted for urging the movable contact (51) against the two stationary contacts (44,45).

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